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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/689,263      | 10/11/2000  | Milan Mrksich        | 7814/42             | 8463             |

757 7590 07/29/2003

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| EXAMINER |
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NAFF, DAVID M

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| ART UNIT | PAPER NUMBER |
|----------|--------------|

1651

DATE MAILED: 07/29/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/189263

Applicant(s)

Kartsoch def

Examiner

Hoff

Group Art Unit

1651

—The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address—

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

## Status

- ☒ Responsive to communication(s) filed on 5/16/03
- ☒ This action is **FINAL**.
- ☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

## Disposition of Claims

- ☒ Claim(s) 19-36, 41, 43-44 + 49-58 is/are pending in the application.
- ☐ Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- ☒ Claim(s) 19-36, 41, 43-44 + 49-58 is/are rejected.
- ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- ☐ Claim(s) \_\_\_\_\_ are subject to restriction or election requirement.

## Applicable Papers

- ☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.
- ☐ The proposed drawing correction, filed on \_\_\_\_\_ is ☐ approved ☐ disapproved.
- ☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.
- ☐ The specification is objected to by the Examiner.
- ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. § 119 (a)-(d)

- ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
  - ☐ All ☐ Some\* ☐ None of the CERTIFIED copies of the priority documents have been received.
  - ☐ received in Application No. (Series Code/Serial Number) \_\_\_\_\_.
  - ☐ received in this national stage application from the International Bureau (PCT Rule 1.7.2(a)).

\*Certified copies not received: \_\_\_\_\_

## Attachment(s)

- ☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). \_\_\_\_\_
- ☐ Interview Summary, PTO-413
- ☐ Notice of Reference(s) Cited, PTO-892
- ☐ Notice of Informal Patent Application, PTO-152
- ☐ Notice of Draftsperson's Patent Drawing Review, PTO-948
- ☐ Other \_\_\_\_\_

Office Action Summary

The amendment of 5/16/03 amended claims 19, 41, 43 and 44, and canceled claim 42.

Claims 1-18, 37-40 and 45-48 withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made without traverse in Paper No. 6 (filed 1/14/02).

Claims examined on the merits are 19-36, 41, 43-44 and 49-58.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

10 ***Claim Rejections - 35 USC § 102***

Claims 19-36, 41-44 and 49-58 are rejected under 35 U.S.C. 102(a) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Luk et al (A3 on 1449 of 9/30/02).

15 The claims are drawn to substrate containing alkanethiolate moieties of formula (5) or an alkanethiol moieties of formula (1) or enantiomers thereof on a surface of gold, and to chip containing the substrate and cells.

Luk et al disclose alkanethiol moieties having a T group (mannitol group) as claimed attached to a gold surface to provide a substrate for attaching cells. For example, see Figure 1. The substrate of Luk et al is the same as presently claimed. Using an enantiomer as an alternative to the alkanethiol moiety of Luk et al would have been a matter of obvious since the enantiomer would have been expected to provide the same function as the alkanethiol moiety. Attaching cells to the substrate of Luk et al inherently provides a chip as required by claims 49-58.

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***Response to Arguments***

Applicants urge that the publication date of the Luk et al reference is after the filing date of the present application due to the reference at the bottom of page 9604 reciting "Published on the Web 10/21/2000".

5 However, there is no evidence that the web published date is the first date of publication. The Langmuir article may have been published before the web date. Form PTO-1449 lists the date as 6/29/00. This is the date the article is in final form, and it would have appeared to be published in Langmuir prior to 10/21/00.

10 ***Claim Rejections - 35 USC § 102***

Claims 19, 29, 31, 36 and 41 are rejected under 35 U.S.C. 102(a) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Chapman et al.

The invention is described above.

15 See no. 2 of Figure 1 of Chapman et al where a group is shown for an alkanethiol moiety that is the same as the T group of the claims. Providing an enantiomer of the alkanethiol moiety as an alternative would have been a matter of obvious choice since the enantiomer would have been expected to provide the same function.

20 ***Response to Arguments***

The 131 Mrksich Declaration is inadequate to establish a priority of the invention since it does not state that the invention was completed in this country, has not been signed by both inventors, and the evidence relied on is Luk et al which has not been established by adequate

evidence to have been published after the filing date of the instant application.

***Claim Rejections - 35 USC § 103***

Claims 29, 36, 57 and 58 are rejected under 35 U.S.C. 103(a) as  
5 being unpatentable over Mrksich et al (A18) in view of Hodneland et al (A7), Houseman et al (A9) and Sigal et al (A25), and if necessary in further view of Deng et al (A3) or Hodneland et al (A8) for reasons set forth in the previous office action of 4/23/02.

The invention is described above.

10 Mrksich et al (A18) disclose using alkanethiol or alkanethiolate moieties on a surface of gold as a substrate for proteins or cells.

Hodneland et al (A7), Houseman et al (A9) and Sigal et al (A25), and if needed Deng et al (A3) or Hodneland et al (A8) disclose alkanethiol or alkanethiolate moieties having different groups for  
15 adhering protein or cells to a gold surface.

It would have been obvious to select preferred groups for the alkanethiol or alkanethiolate moieties of Mrksich et al in view of the different groups disclosed by Hodneland et al (A7), Houseman et al (A9) and Sigal et al (A25), and if needed Deng et al (A3) or Hodneland et al  
20 (A8) contained by alkanethiol or alkanethiolate moieties. Such preferred groups would have inherently provided a monolayer that does not fail a cell patterning test at 12 days as required by claim 29.

***Response to Amendment***

The argument that the references do not disclose a T group as  
25 claimed is unpersuasive since the claims do not require a T group as in

the formula of claims 19 and 41. There is inadequate evidence to establish that groups of the reference do not fail a cell patterning test at 12 days as claimed. The claims do not require a particular procedure for the test.

5                                   ***Claim Rejections - 35 USC § 103***

Claims 19-36, 41, 43-44 and 49-58 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mrksich et al (A18), Hodneland et al (A7), Houseman et al (A9) or Sigal et al (A25) in view of Luk et al or Chapman et al.

10       The invention and references are described above.

It would have been obvious to provide the alkanethiol or alkanethiolate moieties of Mrksich et al (A18), Hodneland et al (A7), Houseman et al (A9) or Sigal et al (A25) with a mannitol group as suggested by Luk et al or Chapman et al using alkanethiolates or  
15 alkanethiols containing a mannitol group for attaching cells.

***Response to Arguments***

Comments set forth above in response to arguments also apply to this rejection.

***Double Patenting***

20       Claims 19-36, 41, 43-44 and 49-58 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-117 of copending Application No. 09/923,760 or claims 1-41 of copending application 09/797,166 in view of Luk et al or Chapman et al.

It would have been obvious to use as the T group of the alkanethiol or alkanethiolate moiety of the copending application claims, a mannitol group as suggested by Luk et al or Chapman et al using alkanethiolates or alkanethiols containing a mannitol group for attaching cells. Having the T group as a terminal group would have been obvious since Luk et al and Chapman et al use the T group as a terminal group. An enantiomer of the alkanethiolate or alkanethiol moiety would have been obvious since the enantiomer would have been expected to provide the same function.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

#### ***Response to Arguments***

As noted above, Luk et al and Chapman et al have not been eliminated as references.

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David M. Naff whose telephone number is (703) 308-0520. The examiner can normally be reached on Monday-Thursday and every other Friday from about 8:30 AM to about 6:00

5 PM.

If attempts to reach the examiner by telephone are unsuccessful, a message can be left on voice mail.

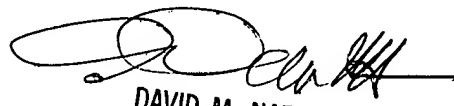
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mike Wityshyn, can be reached at telephone number  
10 (703) 308-4743.

The fax phone number is (703) 872-9306 before final rejection or (703) 872-9307 after final rejection.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist  
15 whose telephone number is (703) 308-0196.

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DMN  
7/28/03

  
DAVID M. NAFF  
PRIMARY EXAMINER  
ART UNIT 12857